

Application/Control Number: 10/823,712

Page 2

Art Unit: 2800

Clmpto

09082006

PY

Art Unit: 2800

1. (Original) A flat panel display, comprising:
a plurality of pixels, each of the pixels including R, G and B unit pixels to embody red (R), green (G) and blue (B) colors, respectively, and each of the unit pixels including at least one transistor,
wherein transistors of at least two unit pixels of the R, G, and B unit pixels include channel layers with different current mobilities.
2. (Original) The flat panel display according to claim 1, wherein each of the at least one transistor in the R, G and B unit pixels includes a channel layer having the same size in each pixel.
3. (Original) The flat panel display according to claim 1, wherein the R, G and B unit pixels each further include a light-emitting device, and transistors to control currents supplied to the light-emitting devices of each unit pixel include the channel layers having the same size in each pixel.
4. (Original) The flat panel display according to claim 1, wherein the R, G and B unit pixels further include a light-emitting device driven by at least one transistor, where current

Art Unit: 2800

mobility of a transistor to drive a light-emitting device having the highest luminous efficiency among the lighting-emitting devices of the unit pixels is lower than the current mobility of at least one transistors to drive lighting-emitting devices having a relatively low luminous efficiency.

5. (Original) The flat panel display according to claim 1, wherein the channel layers of the transistors of the R, G and B unit pixels are made of polycrystalline silicon films having different crystallization directions from one another.

6. (Original) The flat panel display according to claim 5, wherein the R, G and B unit pixels each further include a light-emitting devices driven by the transistors, respectively, where a channel layer of a transistor to drive a light-emitting device having the highest luminous efficiency among the light-emitting devices is made of a metal induced crystallization (MIC) polycrystalline silicon film, and channel layers of transistors to drive light-emitting devices having relatively low luminous efficiency are made of a metal induced lateral crystallization (MILC) polycrystalline silicon film.

7. (Original) The flat panel display according to claim 1, wherein the R, G and B unit pixels each further include a light-emitting device driven by the transistors, respectively, and the R, G and B unit pixels each includes a driving transistor to drive the light emitting device and a switching transistor to the driving transistor switch on or off.

8. (Original) The flat panel display according to claim 7, wherein the channel layers of the switching transistors of the R, G and B unit pixels are made of a MIC polycrystalline silicon film, and wherein a driving transistor of a unit pixel having the highest luminous efficiency among the R, G and B unit pixels has a channel layer made of the MIC polycrystalline silicon

Art Unit: 2800

film and driving transistors of unit pixels having a relatively lower luminous efficiency have channel layers made of a MILC polycrystalline silicon film.

9. (Original) The flat panel display according to claim 7, wherein the channel layers of the switching transistors of the R, G and B unit pixels are made of a MILC polycrystalline silicon film, and wherein a driving transistor of a unit pixel having the highest luminous efficiency among the R, G and B unit pixels has a channel layer made of a MIC polycrystalline silicon film and driving transistors of unit pixels having a relatively lower luminous efficiency have channel layers made of the MILC polycrystalline silicon film.

10. (Original) The flat panel display according to claim 7, wherein a switching transistor and a driving transistor of a unit pixel having the highest luminous efficiency among the R, G and B unit pixels have channel layers made of a MIC polycrystalline silicon film, and driving transistors and switching transistors of unit pixels having a relatively lower luminous efficiency have channel layers made of a MILC polycrystalline silicon film.

Art Unit: 2800

crystallizing the amorphous silicon film into a polycrystalline silicon film in order that a portion corresponding to the first and second masks is crystallized by a MILC method and a remaining portion is crystallized by a metal induced crystallization (MIC) method;

removing the first and second masks and the metal film; and

patterning, the polycrystalline silicon film in order that a semiconductor layer of a transistor of a unit pixel having the highest luminous efficiency among the R, G and B unit pixels is made of the polycrystalline silicon film crystallized by the MIC method, and semiconductor layers of transistors of unit pixels having a relatively lower luminous efficiency is made of the polycrystalline silicon film crystallized by the MILC method.

12. (Currently Amended) A flat panel display, comprising a plurality of pixels, each of the pixels including R, G and B unit pixels to embody red (R), green (G) and blue (B) colors, respectively, and each of the unit pixels including a transistor,

wherein the transistor of at least one unit pixel among the R, G, B unit pixels includes a channel layer made of silicon layers having [(a)] different current mobilities ~~film quality~~.

13. (Currently Amended) The flat panel display according to claim 12, wherein the transistors of at least two unit pixels among the R, G and B unit pixels include channel layers made of silicon layers of at least one different current mobility ~~film quality~~, and wherein a length of a first silicon layer having low current mobility and a length of a second silicon layer having low current mobility are different.

14. (Original) The flat panel display according to claim 12, wherein the transistors of the R, G and B unit pixels include channel layers having a same length.

Art Unit: 2800

15. (Previously Presented) The flat panel display according to claim 12, wherein the R, G and B unit pixels each further include a light-emitting device, and transistors to control currents supplied to the light-emitting devices of the unit pixels include channel layers having a same length.

16. (Previously Presented) The flat panel display according to claim 15, wherein a channel layer of a transistor corresponding to a light-emitting device having the lowest luminous efficiency among the light-emitting devices of the R, G and B unit pixels does not include a silicon layer having low current mobility or includes a silicon layer having low current mobility with a smaller length than channel layers of transistors corresponding to light-emitting devices having relatively higher luminous efficiency.

17. (Previously Presented) The flat panel display according to claim 14, wherein the channel layer is made of a polycrystalline silicon layer and an amorphous silicon layer.

18. (Previously Presented) The flat panel display according to claim 14, wherein a silicon layer having low current mobility in the channel layer is made of an amorphous silicon layer.